Abstract

An illumination system for a microlithography projection exposure installation for illuminating an illumination field (7) with the light of an assigned light source (10) has at least one polarization compensator (11) in a pupil plane (23) of the illumination system. The latter can be used for the at least partial compensation of a polarization change introduced by elements (5) that change polarization as a function of angle. For the purpose of location-dependent polarization change, the polarization compensator (11) has polarization changing means that can be designed as birefringent elements or elements having a birefringent structure. The transmission properties of the microlithography projection exposure installation can be enhanced by such a polarization compensation, particularly when use is made of a subsequent projection objective with a physical beam splitter.

(See Figure 2)